CONDITION

Pentobarbital overdose

Pentobarbital overdose is dangerous poisoning that slows breathing, consciousness, and circulation.

WHAT IT IS
Poisoning from too much pentobarbital

BODY SYSTEM
Brain, breathing, heart and circulation

MAIN SYMPTOMS
Extreme sleepiness, slow breathing, confusion, loss of consciousness

WHAT CAUSES IT
Excess pentobarbital, sometimes combined with other depressants

HOW IT IS DIAGNOSED
Clinical assessment and a measured blood pentobarbital level

MAIN TREATMENT
Emergency supportive care for breathing and circulation

CAN IT BE CURED?
Sometimes - prompt supportive care can allow recovery

IS IT AN EMERGENCY?
Yes - suspected exposure needs immediate help

LONG-TERM OUTLOOK
Often full recovery unless prolonged oxygen loss causes injury

Overview

Pentobarbital overdose happens when there is enough pentobarbital in the body to dangerously slow the brain and other vital functions. It is a medical emergency.

Pentobarbital is a barbiturate, a type of sedative medicine that reduces activity in the brain and nervous system. It has limited medical and veterinary uses. Taking too much can cause deep unconsciousness, dangerously slow breathing, low blood pressure, coma, and death.

The difference between a sedating amount and a dangerous amount can be affected by a person's health, tolerance, and use of other substances. Alcohol, opioids like oxycodone or morphine , benzodiazepines like diazepam or lorazepam , sleep medicines, and other sedatives can greatly increase the risk because their effects may combine.

There is no specific antidote that reverses pentobarbital. Hospital treatment supports breathing and circulation while the body clears the drug. Early emergency care can improve the chance of recovery.

Do not wait for symptoms after a known or possible overdose. A person may become too sleepy to ask for help, and their breathing can worsen without warning.

Symptoms

Symptoms usually reflect slowed activity in the brain and nervous system. They may begin with poor coordination or unusual sleepiness and progress to unconsciousness.

Possible symptoms include:

A person who appears to be sleeping may actually be deeply unconscious. Shouting their name or gently tapping their shoulder may produce little or no response. Snoring, gurgling, long pauses between breaths, or blue or grey lips can mean the airway or breathing is in danger.

Symptoms can be more severe when pentobarbital is taken with alcohol, opioids, benzodiazepines, or other medicines that cause sleepiness. An overdose may also involve injuries from falling, vomiting into the lungs, or remaining in one position for a long time.

- Severe drowsiness or difficulty staying awake
- Confusion, slurred speech, or poor coordination
- Slow, shallow, irregular, or stopped breathing
- Weak pulse or low blood pressure
- Cool or clammy skin
- Low body temperature
- Reduced reflexes
- Loss of consciousness or coma

Causes and risk factors

An overdose may result from taking pentobarbital by mistake, taking more than intended, receiving an incorrect amount, or deliberately taking it during a mental health crisis. Exposure can also occur through veterinary products or medicines that were not prescribed for the person using them.

Risk rises when pentobarbital is combined with other substances that slow breathing or alertness. These include alcohol, opioid pain medicines, heroin or fentanyl, benzodiazepines, and some sleep medicines.

Other factors that may increase the chance of severe poisoning include older age, significant liver or kidney problems, lung disease, and frailty. A person who regularly uses barbiturates may develop tolerance, meaning they need more to feel the same effect. Tolerance does not protect against respiratory failure.

Pentobarbital can also cause physical dependence with repeated use. Suddenly stopping after regular use may cause dangerous withdrawal, including agitation, delirium, or seizures. That is separate from overdose but can complicate care.

Diagnosis

Emergency clinicians first assess consciousness, breathing, pulse, blood pressure, temperature, and oxygen level. Treatment begins immediately if breathing or circulation is unstable. It does not wait for a laboratory result.

Information about what was taken is useful when it is available. Medicine containers, veterinary product labels, the possible amount, the time of exposure, and any other substances may help guide care. Do not delay calling for help to gather this information.

Blood tests may measure pentobarbital or identify barbiturates. A urine drug screen may show exposure to the barbiturate drug class, but it usually cannot show the amount taken or prove that pentobarbital caused the current symptoms. Test results also may not be available quickly.

Other testing may include blood glucose, kidney and liver tests, blood gases to assess breathing, and an electrocardiogram to check the heart's rhythm. Clinicians may test for other common overdose substances because more than one drug can be involved.

A chest X-ray may be needed if vomit may have entered the lungs. Brain imaging or other tests may be used when a head injury, stroke, infection, or another cause of unconsciousness is possible.

Treatment and management

Treatment usually takes place in an emergency department. Severe poisoning may require an intensive care unit.

The main treatment is supportive care. This means protecting vital functions until pentobarbital is cleared from the body. Care may include oxygen, close monitoring, intravenous fluids, and medicine to support dangerously low blood pressure.

If a person cannot protect their airway or breathe adequately, clinicians may place a breathing tube and use a ventilator. A ventilator moves air in and out of the lungs while the drug's effects wear off.

There is no pentobarbital-specific antidote. Naloxone, the opioid-reversal medicine, does not reverse pentobarbital. Emergency responders may still give naloxone when opioid exposure is possible because mixed overdoses are common and untreated opioid poisoning can also stop breathing.

Activated charcoal may sometimes be considered soon after swallowing pentobarbital. It binds some drug in the digestive tract. It is not safe for everyone, especially someone who is very drowsy and cannot protect their airway. It should only be given under professional direction. Do not give charcoal or try to make someone vomit at home.

Specialist toxicology teams may consider methods to remove drug from the blood in selected, exceptionally severe cases. Such treatment is not routine for every pentobarbital overdose and does not replace airway and circulation support.

Monitoring continues until the person is awake enough to protect their airway and their breathing, blood pressure, temperature, and other findings remain stable. If the overdose was intentional, care also includes a mental health assessment and a plan for immediate safety and follow-up.

Complications

The most serious complication is respiratory failure, meaning breathing becomes too slow or stops. Without enough oxygen, the heart and brain can be injured.

Vomiting while deeply sedated can allow stomach contents to enter the lungs. This is called aspiration. It can block the airway or lead to lung inflammation and pneumonia.

Other possible complications include:

These complications are not inevitable. Risk is influenced by the amount taken, other substances, underlying health, how long breathing was impaired, and how quickly supportive care began.

- Dangerously low blood pressure and shock
- Abnormal heart rhythms

- Low body temperature
- Muscle and nerve damage from prolonged pressure
- Kidney injury, sometimes related to muscle breakdown
- Brain injury after a prolonged lack of oxygen
- Coma or death

Prevention

Pentobarbital overdose can often be prevented by controlling access and using the medicine only as directed in the setting for which it was supplied.

Keep human and veterinary products in their original labelled containers. Store them locked away from children, visitors, and anyone at risk of self-harm. Do not share pentobarbital or use a product prescribed for an animal.

Do not combine pentobarbital with alcohol, opioids, benzodiazepines, sleep medicines, or other sedatives unless the combination has been specifically managed by the prescribing clinician. Avoid taking an extra amount because the expected effect has not happened yet.

Dispose of unused medicine through an approved medicine take-back service when one is available. Veterinary clinics or pharmacies can advise how to handle products that cannot be placed in a standard take-back program.

If access to pentobarbital is connected to thoughts of suicide or self-harm, seek immediate support and move away from the substance if this can be done safely. Emergency services can help protect the person while the crisis is addressed.

Living with it and what to expect

Pentobarbital overdose is usually an acute event rather than a lifelong condition. Recovery may take hours or days, and severe poisoning may require longer intensive care. Large exposures can last longer than expected because the body needs time to process and remove the drug.

Many people who receive timely supportive care recover without lasting physical effects. A prolonged period of very low oxygen, shock, aspiration, or organ injury can lead to a longer recovery or lasting disability. The early level of unconsciousness alone does not reliably show what the long-term outcome will be.

After discharge, tiredness, weakness, poor concentration, or emotional distress may continue for a time. Follow-up may be needed for lung problems, injuries, kidney damage, or concerns about memory and thinking.

A single overdose does not usually cause withdrawal. Someone who has been taking barbiturates regularly may be physically dependent, however. They should not stop suddenly without medical supervision because barbiturate withdrawal can cause seizures and severe confusion.

After an accidental overdose, follow-up often focuses on medicine storage, labelling, and avoiding dangerous combinations. After an intentional overdose, ongoing mental health care and reducing access to lethal substances are important parts of recovery. Support should address the circumstances that led to the overdose, not only the poisoning itself.

When to get medical help

Suspected pentobarbital overdose always needs emergency help. Call your local emergency number or poison information service immediately. Do not wait for severe symptoms or try to manage the exposure at home.

Call emergency services now if a person:

If the person is not breathing normally, begin CPR if you know how and follow the emergency dispatcher's instructions. Use an automated external defibrillator if one is available.

If the person is unconscious but breathing, place them on their side if it is safe to do so. This may help keep the airway open and reduce choking if they vomit. Stay with them and keep checking their breathing.

Do not make the person vomit. Do not give food, drink, coffee, or a cold shower. Do not let them "sleep it off." Bring the container or label for emergency staff if it is safe and easy to retrieve.

Routine follow-up is appropriate after hospital discharge for ongoing tiredness, breathing symptoms, injuries, or medication concerns. New shortness of breath, worsening confusion, fainting, or difficulty waking remains urgent.

- Cannot be awakened or is becoming less responsive
- Has slow, shallow, irregular, or stopped breathing
- Has blue, grey, or very pale lips or skin
- Collapses, has a seizure, or has no normal pulse

- May have taken pentobarbital intentionally
- Took pentobarbital with alcohol, opioids, or other sedatives

Common questions

How much pentobarbital causes an overdose?

There is no single amount that is safe to use as an overdose threshold. Risk is affected by the product, route of exposure, other substances, tolerance, age, and health. Any amount beyond what was medically intended, or any unknown exposure, should be discussed immediately with emergency services or a poison information service.

Can you wake someone who has overdosed on pentobarbital?

A person with mild effects may respond briefly, but severe poisoning can cause coma. Shaking, walking, coffee, or a cold shower will not reverse the drug and may cause injury. If the person is unusually difficult to wake, call emergency services.

Is there an antidote for pentobarbital?

No specific antidote reverses pentobarbital. Treatment supports breathing, blood pressure, temperature, and other vital functions while the body clears it. Naloxone only reverses opioids, although responders may use it when opioid exposure is also possible.

How long does a pentobarbital overdose last?

The dangerous effects may continue for many hours and can last longer after a large exposure or when other sedatives are involved. Liver function, kidney function, circulation, and complications also affect recovery time. Hospital monitoring is needed until vital functions and alertness remain stable.

Can someone fully recover from pentobarbital overdose?

Full recovery is possible, especially when breathing and circulation are supported promptly. Lasting problems are more likely if the brain or other organs went without enough oxygen for a prolonged period, or if complications such as aspiration or shock occurred.

What should I do if the person seems fine after taking it?

Call a poison information service or emergency service immediately. Early symptoms may be mild, and the person may become too drowsy to seek help later. Do not leave them alone or wait for breathing problems to appear.

Sources

- DailyMed: Nembutal Sodium-pentobarbital sodium injection prescribing information
- MedlinePlus Medical Encyclopedia: Barbiturate intoxication and overdose
- Merck Manual Professional Edition: Sedatives
- Chyka PA, Seger D, Krenzelok EP, Vale JA. "Position paper: Single-dose activated charcoal." Clinical Toxicology . 2005;43(2):61-87.
- Mactier R, Laliberté M, Mardini J, et al. "Extracorporeal treatment for barbiturate poisoning: Recommendations from the EXTRIP Workgroup." American Journal of Kidney Diseases . 2014;64(3):347-358.